

4/16/02



1600

1635

OIPE

RAW SEQUENCE LISTING
PATENT APPLICATION: US/10/033,026

DATE: 01/31/2002
TIME: 10:29:08

Input Set : N:\Crf3\RULE60\10033026.txt
Output Set: N:\CRF3\01312002\J033026.raw

3 <110> APPLICANT: Lipscombe, Diane
 4 Schorge, Stephanie
 6 <120> TITLE OF INVENTION: HUMAN N-TYPE CALCIUM CHANNEL ISOFORM AND USES THEREOF
 8 <130> FILE REFERENCE: B1055/7000
 10 <140> CURRENT APPLICATION NUMBER: 10/033,026
 11 <141> CURRENT FILING DATE: 2001-12-28
 13 <150> PRIOR APPLICATION NUMBER: US 09/268,163
 14 <151> PRIOR FILING DATE: 1999-03-12
 16 <150> PRIOR APPLICATION NUMBER: US 60/077,901
 17 <151> PRIOR FILING DATE: 1998-03-13
 19 <160> NUMBER OF SEQ ID NOS: 28
 21 <170> SOFTWARE: FastSEQ for Windows Version 3.0
 23 <210> SEQ ID NO: 1
 24 <211> LENGTH: 12
 25 <212> TYPE: DNA
 26 <213> ORGANISM: Homo sapiens
 28 <400> SEQUENCE: 1
 29 gagcttcgtg gg
 31 <210> SEQ ID NO: 2
 32 <211> LENGTH: 4
 33 <212> TYPE: PRT
 34 <213> ORGANISM: Homo sapiens
 36 <400> SEQUENCE: 2
 37 Ser Phe Val Gly
 38 1
 40 <210> SEQ ID NO: 3
 41 <211> LENGTH: 7376
 42 <212> TYPE: DNA
 43 <213> ORGANISM: Homo sapiens
 45 <220> FEATURE:
 46 <221> NAME/KEY: CDS
 47 <222> LOCATION: 146..7174
 49 <400> SEQUENCE: 3
 50 gcggcggcggt ctgcggcggt gggccggc gaggtccgt gcggtccgg cggtccgtg 60
 51 gctgctccgc tctgagcgcc tggcgccccc cgcgcctcc ctgcccggc cgctggccg 120
 52 gggatgcacg cggggccccgg gagcc atg gtc cgc ttc ggg gac gag ctg ggc 172
 53 Met Val Arg Phe Gly Asp Glu Leu Gly
 54 1 5
 55 ggc cgc tat gga ggc ccc ggc ggc gga gag cgg gcc cgg ggc ggc ggg 220
 56 Gly Arg Tyr Gly Pro Gly Gly Glu Arg Ala Arg Gly Gly Gly
 57 10 15 20 25
 58 gcc ggc ggg gcg ggg ggc ccg ggt ccc ggg ggg ctg cag ccc ggc cag 268
 59 Ala Gly Gly Ala Gly Pro Gly Gly Leu Gln Pro Gly Gln

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TECH CENTER 1400/2900
TECH CENTER 1600/2900

Input Set : N:\Crf3\RULE60\10033026.txt
Output Set: N:\CRF3\01312002\J033026.raw

60	30	35	40	
61	cgg gtc ctc tac aag caa tcg atc gcg cag cgc gcg cgg acc atg gcg			316
62	Arg Val Leu Tyr Lys Gln Ser Ile Ala Gln Arg Ala Arg Thr Met Ala			
63	45 50 55			
64	ctg tac aac ccc atc ccg gtc aag cag aac tgc ttc acc gtc aac cgc			364
65	Leu Tyr Asn Pro Ile Pro Val Lys Gln Asn Cys Phe Thr Val Asn Arg			
66	60 65 70			
67	tcg ctc ttc gtc ttc agc gag gac aac gtc gtc aaa tac gcg aag			412
68	Ser Leu Phe Val Phe Ser Glu Asp Asn Val Val Arg Lys Tyr Ala Lys			
69	75 80 85			
70	cgc atc acc gag tgg cct cca ttc gag tat atg atc ctg gcc acc atc			460
71	Arg Ile Thr Glu Trp Pro Pro Phe Glu Tyr Met Ile Leu Ala Thr Ile			
72	90 95 100 105			
73	atc gcc aac tgc atc gtg ctg gcc ctg gag cag cac ctc cct gat ggg			508
74	Ile Ala Asn Cys Ile Val Ala Leu Glu Gln His Leu Pro Asp Gly			
75	110 115 120			
76	gac aaa acg ccc atg tcc gag cgg ctg gac acg gag ccc tat ttc			556
77	Asp Lys Thr Pro Met Ser Glu Arg Leu Asp Asp Thr Glu Pro Tyr Phe			
78	125 130 135			
79	atc ggg atc ttt tgc ttc gag gca ggg atc aaa atc atc gct ctg ggc			604
80	Ile Gly Ile Phe Cys Phe Glu Ala Gly Ile Lys Ile Ile Ala Leu Gly			
81	140 145 150			
82	ttt gtc ttc cac aag ggc tct tac ctg cgg aac ggc tgg aac gtc atg			652
83	Phe Val Phe His Lys Gly Ser Tyr Leu Arg Asn Gly Trp Asn Val Met			
84	155 160 165			
85	gac ttc gtg gtc ctc aca ggg atc ctt gcc acg gct gga act gac			700
86	Asp Phe Val Val Leu Thr Gly Ile Leu Ala Thr Ala Gly Thr Asp			
87	170 175 180 185			
88	ttc gac ctg cga aca ctg agg gct gtg cgt gtg ctg agg ccc ctg aag			748
89	Phe Asp Leu Arg Thr Leu Arg Ala Val Arg Val Leu Arg Pro Leu Lys			
90	190 195 200			
91	ctg gtg tct ggg att cca agt ttg cag gtg gtg ctc aag tcc atc atg			796
92	Leu Val Ser Gly Ile Pro Ser Leu Gln Val Val Leu Lys Ser Ile Met			
93	205 210 215			
94	aag gcc atg gtt cca ctc ctg cag att ggg ctg ctt ctc ttc ttt gcc			844
95	Lys Ala Met Val Pro Leu Leu Gln Ile Gly Leu Leu Leu Phe Phe Ala			
96	220 225 230			
97	atc ctc atg ttt gcc atc att ggc ctg gag ttc tac atg ggc aag ttc			892
98	Ile Leu Met Phe Ala Ile Ile Gly Leu Glu Phe Tyr Met Gly Lys Phe			
99	235 240 245			
100	cac aag gcc tgt ttc ccc aac agc aca gat gcg gag ccc gtg ggt gac			940
101	His Lys Ala Cys Phe Pro Asn Ser Thr Asp Ala Glu Pro Val Gly Asp			
102	250 255 260 265			
103	ttc ccc tgt ggc aag gag gcc cca gcc cgg ctg tgc gag ggc gac act			988
104	Phe Pro Cys Gly Lys Glu Ala Pro Ala Arg Leu Cys Glu Gly Asp Thr			
105	270 275 280			
106	gag tgc cgg gag tac tgg cca gga ccc aac ttt ggc atc acc aac ttt			1036
107	Glu Cys Arg Glu Tyr Trp Pro Gly Pro Asn Phe Gly Ile Thr Asn Phe			
108	285 290 295			

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109	gac aat atc ctg ttt gcc atc ttg acg gtg ttc cag tgc atc acc atg	1084
110	Asp Asn Ile Leu Phe Ala Ile Leu Thr Val Phe Gln Cys Ile Thr Met	
111	300 305 310	
112	gag ggc tgg act gac atc ctc tat aat aca aac gat gcg gcc ggc aac	1132
113	Glu Gly Trp Thr Asp Ile Leu Tyr Asn Thr Asn Asp Ala Ala Gly Asn	
114	315 320 325	
115	acc tgg aac tgg ctc tac ttc atc cct ctc atc atc ggc tcc ttc	1180
116	Thr Trp Asn Trp Leu Tyr Phe Ile Pro Leu Ile Ile Gly Ser Phe	
117	330 335 340 345	
118	ttc atg ctc aac ctg gtg ctc ggc gtg ctc tcg ggg gag ttt gcc aag	1228
119	Phe Met Leu Asn Leu Val Leu Gly Val Leu Ser Gly Glu Phe Ala Lys	
120	350 355 360	
121	gag cga gag agg gtg gag aac cgc cgc gcc ttc ctg aag ctg cgc cgg	1276
122	Glu Arg Glu Arg Val Glu Asn Arg Arg Ala Phe Leu Lys Leu Arg Arg	
123	365 370 375	
124	cag cag cag atc gag cga gag ctc aac ggg tac ctg gag tgg atc ttc	1324
125	Gln Gln Gln Ile Glu Arg Glu Leu Asn Gly Tyr Leu Glu Trp Ile Phe	
126	380 385 390	
127	aag gcg gag gaa gtc atg ctg gcc gag gag gac agg aat gca gag gag	1372
128	Lys Ala Glu Glu Val Met Leu Ala Glu Glu Asp Arg Asn Ala Glu Glu	
129	395 400 405	
130	aag tcc cct ttg gac gtg ctg aag aga gcg gcc acc aag aag agc aga	1420
131	Lys Ser Pro Leu Asp Val Leu Lys Arg Ala Ala Thr Lys Lys Ser Arg	
132	410 415 420 425	
133	aat gac ctg atc cac gca gag gag gga gag gac cgg ttt gca gat ctc	1468
134	Asn Asp Leu Ile His Ala Glu Glu Gly Glu Asp Arg Phe Ala Asp Leu	
135	430 435 440	
136	tgt gct gtt gga tcc ccc ttc gcc cgc gcc agc ctc aag agc ggg aag	1516
137	Cys Ala Val Gly Ser Pro Phe Ala Arg Ala Ser Leu Lys Ser Gly Lys	
138	445 450 455	
139	aca gag agc tcg tca tac ttc cgg agg aag gag aag atg ttc cgg ttt	1564
140	Thr Glu Ser Ser Tyr Phe Arg Arg Lys Glu Lys Met Phe Arg Phe	
141	460 465 470	
142	ttt atc cgg cgc atg gtg aag gct cag agc ttc tac tgg gtg gtg ctg	1612
143	Phe Ile Arg Arg Met Val Lys Ala Gln Ser Phe Tyr Trp Val Val Leu	
144	475 480 485	
145	tgc gtg gtg gcc ctg aac aca ctg tgt gtg gcc atg gtg cat tac aac	1660
146	Cys Val Val Ala Leu Asn Thr Leu Cys Val Ala Met Val His Tyr Asn	
147	490 495 500 505	
148	cag ccg cgg cgg ctt acc acg acc ctg tat ttt gca gag ttt gtt ttc	1708
149	Gln Pro Arg Arg Leu Thr Thr Leu Tyr Phe Ala Glu Phe Val Phe	
150	510 515 520	
151	ctg ggt ctc ttc aca gag atg tcc ctg aag atg tat ggc ctg ggg	1756
152	Leu Gly Leu Phe Leu Thr Glu Met Ser Leu Lys Met Tyr Gly Leu Gly	
153	525 530 535	
154	ccc aga agc tac ttc cgg tcc ttc aac tgc ttc gac ttt ggg gtc	1804
155	Pro Arg Ser Tyr Phe Arg Ser Ser Phe Asn Cys Phe Asp Phe Gly Val	
156	540 545 550	
157	atc gtg ggg agc gtc ttt gaa gtc gtc tgg gcg gcc atc aag ccg gga	1852

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158	Ile Val Gly Ser Val Phe Glu Val Val Trp Ala Ala Ile Lys Pro Gly			
159	555	560	565	
160	agc tcc ttt ggg atc agt gtg ctg cgg gcc ctc cgc ctg ctg agg atc			1900
161	Ser Ser Phe Gly Ile Ser Val Leu Arg Ala Leu Arg Leu Arg Ile			
162	570	575	580	585
163	ttc aaa gtc acg aag tac tgg agc tcc ctg cgg aac ctg gtg gtg tcc			1948
164	Phe Lys Val Thr Lys Tyr Trp Ser Ser Leu Arg Asn Leu Val Val Ser			
165	590	595	600	
166	ctg ctg aac tcc atg aag tcc atc atc agc ctg ctc ttc ttg ctc ttc			1996
167	Leu Leu Asn Ser Met Lys Ser Ile Ile Ser Leu Leu Phe Leu Leu Phe			
168	605	610	615	
169	ctg ttc att gtg gtc ttc gcc ctg ctg ggg atg cag ctg ttt ggg gga			2044
170	Leu Phe Ile Val Val Phe Ala Leu Leu Gly Met Gln Leu Phe Gly Gly			
171	620	625	630	
172	cag ttc aac ttc cag gat gag act ccc aca acc aac ttc gac acc ttc			2092
173	Gln Phe Asn Phe Gln Asp Glu Thr Pro Thr Asn Phe Asp Thr Phe			
174	635	640	645	
175	cct gcc gcc atc ctc act gtc ttc cag atc ctg acg gga gag gac tgg			2140
176	Pro Ala Ala Ile Leu Thr Val Phe Gln Ile Leu Thr Gly Glu Asp Trp			
177	650	655	660	665
178	aat gca gtg atg tat cac ggg atc gaa tcg caa ggc ggc gtc agc aaa			2188
179	Asn Ala Val Met Tyr His Gly Ile Glu Ser Gln Gly Gly Val Ser Lys			
180	670	675	680	
181	ggc atg ttc tcg tcc ttt tac ttc att gtc ctg aca ctg ttc gga aac			2236
182	Gly Met Phe Ser Ser Phe Tyr Phe Ile Val Leu Thr Leu Phe Gly Asn			
183	685	690	695	
184	tac act ctg ctg aat gtc ttt ctg gcc atc gct gtg gac aac ctg gcc			2284
185	Tyr Thr Leu Leu Asn Val Phe Leu Ala Ile Ala Val Asp Asn Leu Ala			
186	700	705	710	
187	aac gcc caa gag ctg acc aag gat gaa gag gag atg gaa gaa gca gcc			2332
188	Asn Ala Gln Glu Leu Thr Lys Asp Glu Glu Glu Met Glu Glu Ala Ala			
189	715	720	725	
190	aat cag aag ctt gct ctg caa aag gcc aaa gaa gtg gct gaa gtc agc			2380
191	Asn Gln Lys Leu Ala Leu Gln Lys Ala Lys Glu Val Ala Glu Val Ser			
192	730	735	740	745
193	ccc atg tct gcc gcg aac atc tcc atc gcc gcc agg cag cag aac tcg			2428
194	Pro Met Ser Ala Ala Asn Ile Ser Ile Ala Ala Arg Gln Gln Asn Ser			
195	750	755	760	
196	gcc aag gcg cgc tcg gtg tgg gag cag cgg gcc agc cag cta cgg ctg			2476
197	Ala Lys Ala Arg Ser Val Trp Glu Gln Arg Ala Ser Gln Leu Arg Leu			
198	765	770	775	
199	cag aac ctg cgg gcc agc tgc gag gcg ctg tac agc gag atg gac ccc			2524
200	Gln Asn Leu Arg Ala Ser Cys Glu Ala Leu Tyr Ser Glu Met Asp Pro			
201	780	785	790	
202	gag gag cgg ctg cgc ttc gcc act acg cgc cac ctg cgg ccc gac atg			2572
203	Glu Glu Arg Leu Arg Phe Ala Thr Thr Arg His Leu Arg Pro Asp Met			
204	795	800	805	
205	aag acg cac ctg gac cgg ccg ctg gtg gag ctg ggc cgc gac ggc			2620
206	Lys Thr His Leu Asp Arg Pro Leu Val Val Glu Leu Gly Arg Asp Gly			

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207	810	815	820	825													
208	gcg	cgg	ggg	ccc	gtg	gga	ggc	aaa	gcc	cga	cct	gag	qct	gcg	gag	gcc	2668
209	Ala	Arg	Gly	Pro	Val	Gly	Gly	Lys	Ala	Arg	Pro	Glu	Ala	Ala	Glu	Ala	
210																	
211	ccc	gag	ggc	gtc	gac	cct	ccg	cgc	agg	cac	cac	ccg	cac	cgc	gac	aag	2716
212	Pro	Glu	Gly	Val	Asp	Pro	Pro	Arg	Arg	His	His	Arg	His	Arg	Asp	Lys	
213																	
214	gac	aag	acc	ccc	gcf	gcf	ggg	gac	cag	gac	cga	gca	gag	gcc	ccg	aag	2764
215	Asp	Lys	Thr	Pro	Ala	Ala	Gly	Asp	Gln	Asp	Arg	Ala	Glu	Ala	Pro	Lys	
216																	
217	gcf	gag	agc	ggg	gag	ccc	ggt	gcc	cgf	gag	gag	cgf	cgf	cgf	cgf	cac	2812
218	Ala	Glu	Ser	Gly	Glu	Pro	Gly	Ala	Arg	Glu	Glu	Arg	Pro	Arg	Pro	His	
219																	
220	cgc	agc	cac	agc	aag	gag	gcc	gcf	ggg	ccc	ccg	gag	gcf	cgf	agc	gag	2860
221	Arg	Ser	His	Ser	Lys	Glu	Ala	Ala	Gly	Pro	Pro	Glu	Ala	Arg	Ser	Glu	
222																	
223	cgc	ggc	cga	ggc	cca	ggc	ccc	gag	ggc	ggc	cgf	cgf	cac	cac	cgf	cgf	2908
224	Arg	Gly	Arg	Gly	Pro	Gly	Pro	Glu	Gly	Gly	Arg	Arg	His	His	Arg	Arg	
225																	
226	ggc	tcc	ccg	gag	gag	gcf	gcf	gag	cgf	gag	ccc	cga	cgf	cac	cgf	gcf	2956
227	Gly	Ser	Pro	Glu	Glu	Ala	Ala	Glu	Arg	Glu	Pro	Arg	Arg	His	Arg	Ala	
228																	
229	cac	cgf	cac	cag	gat	ccg	agc	aag	gag	tgc	gcc	ggc	gcc	aag	ggc	gag	3004
230	His	Arg	His	Gln	Asp	Pro	Ser	Lys	Glu	Cys	Ala	Gly	Ala	Lys	Gly	Glu	
231																	
232	cgf	cgc	gcf	cgf	cac	cgc	ggc	ggc	ccc	cga	gcf	ggg	ccc	cgf	gag	gcf	3052
233	Arg	Arg	Ala	Arg	His	Arg	Gly	Gly	Pro	Arg	Ala	Gly	Pro	Arg	Glu	Ala	
234																	
235	gag	agc	ggg	gag	gag	ccg	gcf	cgf	cgf	cac	ccg	gcc	cgg	cac	aag	gcf	3100
236	Glu	Ser	Gly	Glu	Glu	Pro	Ala	Arg	Arg	His	Arg	Ala	Arg	His	Lys	Ala	
237																	
238	cag	cct	gtc	cac	gag	gct	gtg	gag	aag	gag	acc	acg	gag	aag	gag	gcc	3148
239	Gln	Pro	Ala	His	Glu	Ala	Val	Glu	Lys	Glu	Thr	Thr	Glu	Lys	Glu	Ala	
240																	
241	acg	gag	aag	gag	gct	gag	ata	gtg	gaa	gcc	gac	aag	aag	gag	ctc		3196
242	Thr	Glu	Lys	Glu	Ala	Glu	Ile	Val	Glu	Ala	Asp	Lys	Glu	Lys	Glu	Leu	
243																	
244	cgf	aac	cac	cag	ccc	cgf	gag	cca	cac	tgt	gac	ctg	gag	acc	agt	ggf	3244
245	Arg	Asn	His	Gln	Pro	Arg	Glu	Pro	His	Cys	Asp	Leu	Glu	Thr	Ser	Gly	
246																	
247	act	gtg	act	gtg	ggt	ccc	atg	cac	aca	ctg	ccc	agc	acc	tgt	ctc	cag	3292
248	Thr	Val	Thr	Val	Gly	Pro	Met	His	Thr	Leu	Pro	Ser	Thr	Cys	Leu	Gln	
249																	
250	aag	gtg	gag	gaa	cag	cca	gag	gat	gca	gac	aat	cag	cgf	aac	gtc	act	3340
251	Lys	Val	Glu	Glu	Gln	Pro	Glu	Asp	Ala	Asp	Asn	Gln	Arg	Asn	Val	Thr	
252																	
253	cgc	atg	ggc	agt	cag	ccc	cca	gac	ccg	aac	act	att	gta	cat	atc	cca	3388
254	Arg	Met	Gly	Ser	Gln	Pro	Pro	Asp	Pro	Asn	Thr	Ile	Val	His	Ile	Pro	
255																	

VERIFICATION SUMMARY
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